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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,237	12/30/2004	Willem J. Quadakkers	2002P02127WOUS01	5094

7590 09/21/2006

Siemens Corporation  
Intellectual Property Department  
170 Wood Avenue South  
Iselin, NJ 08830

EXAMINER
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BALDWIN, GORDON

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/520,237

Applicant(s)

QUADAKKERS ET AL.

Examiner

Gordon R. Baldwin

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-20, 24 and 28-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-20, 24 and 28-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

The disclosure is objected to because of the following informalities:

In **paragraph 36**, the term "tantal" is believed to be a misspelling of "Tantalum".

In **paragraph 44**, it is not understood how a pure gamma-Ni matrix can include Co-Al, Co-Cr or Co-Cr-Al.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**Claims 13, 15-20, 24, 28-29** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The introduction of Ti (titanium) is only directed to the second embodiment of the gamma nickel outer layer with the low aluminum content, as shown in paragraph (51). The first embodiment (of claim 13) of the outer layer containing the beta-NiAl is only enabled for Si, Re, or Ta according to paragraph (36) and not Ti.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claim 30** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear how a gamma-Ni matrix be pure if it has 20-30 wt.-% Cr and 5-6 wt/% Al? How can it be pure Ni? Additionally, does the purity apply only to the gamma phase?

***Claim Rejections - 35 USC § 103***

**Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stamm (Pat. No. 6,610,419 B1) and further in view of Khan (Pat. No. 6,924,045).**

**Consider claim 30**, Stamm teaches two MCrAlY alloy layers laid on top of each other, over a substrate to protect against corrosion. The outer layer (secondary layer) contains an MCrAlY Alloy which is prominently in the gamma-phase. (Col. 3 lines 30-35) Stamm also states, "the first MCrAlY alloy **and/or** the second MCrAlY alloy can contain 15-35% chromium; **7-18% aluminum**, 0.3 to 2% Yttrium." Additionally, Stamm teaches an aluminum oxide layer on top of the outer layer of the MCrAlY. (Col. 3 lines 30-35)

Stamm does not specifically the Aluminum range of 3-6.5%, claimed by the applicant. However, Khan teaches an MCrAlY or NiAl overlay coating to protect the base alloy of turbine blades (abstract) which can be in the gamma phase (Col. 2 lines

22-27) and consist of 5-30% Cr and 3-6% Al with a balance of Ni, Fe or Co. (Col. 2 lines 55-60)

It would have been obvious for a person of ordinary skill in the art at the time of the invention to combine the overlay coating of Stamm, with two MCrAlY layers, with the lower aluminum content of the single overlay coating of Khan to allow for a stable gamma/gamma prime microstructure. (Col. 2 lines 60-65)

**Consider claim 31**, Khan teaches Co in a range of 25-28wt%, Cr in a range of 12-25 wt% and Al in a range of 5-7 wt%. (Col. 3 lines 6-20, Table 1) Additionally, Stamm teaches that the outer layer is to be between 5-50 $\mu$ m thick. (Col. 6 lines 65-68)

**Consider claim 32**, Khan teaches the use of hafnium in addition to Yttrium in the 0.05-0.3 wt.% range. (Col. 3 lines 6-20, Table 1)

### ***Response to Arguments***

Applicant's arguments with respect to **claims 13-32** have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon R. Baldwin whose telephone number is (571)272-5166. The examiner can normally be reached on M-F 7:45-5:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GRB



JENNIFER C. MCNEIL  
SUPERVISORY PATENT EXAMINER

9/15/06